Gateway

Volume 6
Number 6

December 1, 1989

The ARRL Packet-Radio Newsletter

MICROSAT/UOSAT LAUNCH DATE PULLED IN

Arianespace officials have informed AMSAT and University of Surrey that the launch date of the MicroSats and UoSAT D and E satellites has been pulled in by ten days and is now planned for January 9. The date change is the result of the postponement of another mission, designated by Arianespace as V35A, that was planned to lift-off on December 13.

Apparently, there are technical problems with the primary payload of the V35A mission and it will not be ready for launch on schedule, so, Arianespace officials decided to use this extra time to prepare for the next flight, known as the V36A mission. They feel that pulling in the MicroSat/UoSAT launch date by ten days is feasible because the MicroSats and UoSATs, along with the primary payload, SPOT-2, are ready to fly.

The launch campaign began on November 27 with the payload integration teams from AMSAT and the University of Surrey, along with their satellites, arriving in Kourou, French Guyana. By December 20, all of the payloads will be fully integrated aboard the ARIANE IV rocket and the teams will then return home on December 23. After a short Christmas break, the final AMSAT/UoSAT teams will travel back to Kourou and stay there to monitor their respective satellites until the launch.

The UoSATs have completed RF tests in the screen room at University of Surrey and have been exposed to low temperature tests in the clean room "freezer" at -20 degrees C. Marc Fouquet, designer of the CCD camera on-board UoSAT-E, has been taking "bench-mark" images for comparison with orbital images. Totally "black" images have been collected to provide data for image processing using the Transputer Data Processing Experiment - also on UoSAT-E in collaboration with the European Space Agency. Additional solar simulation tests had to be canceled due to the advance in departure date and the spacecraft are now undergoing final cleaning and assembly in the clean room.

Uplink and downlink calibrations in an RF anechoic chamber are planned providing that the chamber can be made available within the very tight schedule. Numerous visitors from several countries, as well as the UK, have recently come to the University to view the new UoSAT spacecraft.

from AMSAT News Service and
UoSAT Mission Control Centre

TERMINAL EMULATOR AVAILABLE ON CARTRIDGE FOR COMMODORE COMPUTERS

DIGICART>64, a cartridge version of DIGICOM>64, the TNC emulator program for the Commodore 64 and 128 computers, is now available. The cartridge features auto-booting, making it ideal for unattended operation; should there be a power interruption, the program (and parameters) will reboot automatically. The cartridge is also ideal for Commodore users without a disk drive.

A unique feature of this cartridge is the ability to rewrite and save parameters without the need for disk access. This is achieved by using a 2864 EEPROM for parameter and text storage. No battery backup is needed to maintain data storage.

Each DIGICART>64 cartridge includes a 25-page instruction book. DIGICART>64 is available as a kit for $49.95 or tested and assembled for $69.95. Add $2.50 for shipping and handling in the US (others should write for shipping charges). Note that the DIGICOM>64 modem (see *QST*, April 1989, page 76) is required for DIGICART>64 operation.

DIGICART>64 is available from:

Barry N. Kutner, W2UP
614-B Palmer Ln
Yardley, PA 19067

MICROSAT MODEM TEST TAPE AVAILABLE

If you are building one of the TAPR or G3RUH 1200-baud PSK modems for the soon-to-be launched MicroSats, a good way to bench-test your modem is by using a cassette tape which Jack Mathias, W9FMW, is offering. This cassette tests your modems without requiring a "live" signal. Also, you can be sure that the rest of your system is operating correctly before the launch of the MicroSats. To obtain *W9FMW Test Tape For TAPR/G3RUH Modems*, contact AMSAT-NA headquarters at 301-589-6062.

from AMSAT NA News Service

FULL-FEATURE PC TERMINAL EMULATOR AVAILABLE

RTP+ is a terminal emulator program written for the application layer of a packet-radio station. The program has been a labor of love over the past four years and has evolved into a very sophisticated program. It is an enhancement of RTP, which itself was developed from PTP with the intention of simplifying its user interface, while adding several new features. RTP+ runs on an IBM PC, PCjr, XT, AT or PS/2 with a TAPR-compatible TNC or multimode controller, such as the AEA PK-232, Kantronics KAM or MFJ 1278. RTP+ requires IBM DOS 2.1 or later and works with the monochrome or CGA adapter. A minimum of 256 kbyte of RAM is required. The program is not copyrighted.

RTP+ provides numerous functions and modes for operating

packet radio, CW, AMTOR and RTTY. The program is extremely versatile and fully configurable from definition files that the user creates. Functions included in this program are optionally sent connect messages, optional automatic issuance of commands to the TNC when starting and ending RTP+, optional automatic enabling of certain features when starting the program, two or three split-screen modes, a "Net Master" mode for more than two stations in a packet-radio QSO, optional connect alarm, background and foreground color selection, optional filtering of monitored BELL characters, optional receive and transmit anti-word-wrap (no words will be split across lines) and a quick save capture for both connected and unconnected packets.

The program also features an unattended personal mini-PBBS, choice of two cursor types (regular or big block for LCD screens), expanded function key capabilities, support of non-packet-radio modes (CW, AMTOR, RTTY for intelligent terminal units or multimode controllers), an optional personalized prompt on the center strip of the split-screen, configurable NTS traffic handling function and built-in traffic editor, selectable DCD detection for both TNC 1s and 2s, configurable scroll-back buffer and optional installation of new SET (TNC parameters) file from within a DEF file. Function key editing from within RTP+ is supported and all definition file commands can be edited from within the program. Other features include user-configurable tags for function keys, optional printer capture, on-line help, optional saving of scroll-back buffer to a capture file, receive and send scroll-back buffers, support for escape to DOS and return, optional communications buffer purge, performance of predefined DOS functions or commands, automatic sending of NTS traffic to a PBBS, uploading and downloading in ASCII, XPACKET, XMODEM and binary, recalling of previous sent lines, type-ahead buffering, a prompting utility to create DEF files and full dual TNC support via two COM ports. Also, optionally combined TNC commands in a file can be sent to the TNC,

To order RTP+, please specify your call sign (each disk is custom written with a call sign) and the disk type you desire (5.25-inch 360 kbyte or 3.5-inch 720 kbyte). A 39-page operating manual is included. RTP+ costs $39.95 per copy and is available from:

N4PY Software
Rt 3 Box 260
Franklinton, NC 27525

SOUTHWEST OHIO DIGITAL SYMPOSIUM: PRELIMINARY AGENDA AND SECOND CALL FOR PAPERS

A preliminary agenda and second call for papers has been announced for the 4th Annual Southwest Ohio Digital Symposium to be held on Saturday, January 20, at the Middletown Campus of Miami University in Middletown, Ohio. The preliminary agenda follows (at this time, there is still room for additions to the agenda). The lack of a call sign or name following a topic indicates that the speaker has not been confirmed.

- Packet radio for beginners including hands-on demonstrations (K8NHE and others)

Concurrent with the above, at least one, and possibly two sessions will be held on the following topics:

- Networking - the next steps
- SYSOPs' discussion group
- MicroSat and other topics of interest to AMSAT
- Alternatives to TNCs for handling node functions
- Super-fast networking (for example, N3EUA's proposal of 1-Mbit/s networking on 10 GHz)
- MSYS PBBS software (WA8BXN)
- AMTOR and APLink
- Emergency uses of packet radio (W8MDK)
- TCP/IP and applications for Amateur Radio (N8EMR)
- An FM radio designed for digital communications (Karl R. Medcalf, WK5M, and Phil Anderson, WØXI, of Kantronics)
- Experiences with the TAPR packetRADIO
- 220-MHz band-planning
- Ohio Packet Council quarterly meeting (NC8Q)

The symposium is a cooperative effort hosted by the Engineering Technology Department of Miami University, the Middletown DIAL Twisters (Dial Radio Club), the Ohio Packet Council and the Cincinnati Buckeye Netters.

Kantronics will demonstrate their 9600-bit/s digital radio and other new hardware and will sponsor a packet-radio seminar on January 21 in coordination with the Symposium.

For further information contact:

Hank Greeb, N8XX @ KC8TW.OH.USA.NA
6580 Dry Ridge Rd
Cincinnati, OH 45252

from CompuServe's HamNet

AMSAT-NA SPACE SYMPOSIUM

AMSAT held its 1989 Space Symposium and Annual Meeting on November 3-5 at the Meredith Corporation's facilities in Des Moines. This facility provided an excellent meeting place for the hosting organization, the Central Iowa Technical Society. Radio amateurs from around the world traveled to Des Moines to be part of this event.

The Symposium began on Saturday morning with Jan King, W3GEY, Bob McGwier, N4HY, Tom Clark, W3IWI, Jon Bloom, KE3Z, and Harold Price, NK6K, presenting a detailed rundown of the MicroSat program. NK6K gave an interesting review of digital store-and-forward software, which he, N4HY, and Jeff Ward, GØ/K8KA, are developing. Following the MicroSat discussion, Stan Sjol, WØKP, and Bill Clapp of Weber State College (WSC) summarized the CCD camera experiment and other scientific experiments which will fly aboard the WEBERSAT MicroSat. Also included was a sample high-resolution picture taken with the WSC CCD. Rounding out the morning session was Dick Jansson,

WD4FAB, who discussed the Phase IV geostationary satellite design effort.

After lunch, Courtney Duncan, N5BF, AMSAT Vice President of Field User Projects, discussed the many exciting activities related to OSCAR-13, for example, Operations Nets, ZRO Tests and the upcoming MicroSat launch. Then Franklin Antonio, N6NKF, presented his satellite tracking program, InstantTrack 1.0. After Franklin, there was series of papers about the exciting scientific missions in which AMSAT and OSCAR satellite users are being invited to support including the Solar Sail, Lunar Polar Orbiter and NASA's Small Expendable-Tether satellite experiments.

Following these papers came Jeff Wallach, N5ITU, Chairman of the Dallas Remote Imaging Group, who presented a paper on high resolution weather satellite image processing. Showing slides of weather satellite pictures processed on his IBM-AT computer, many of the Symposium attendees were overwhelmed by the pictures that N5ITU's computer produced. Bill Brown, WB8ELK, closed the day with his presentation on ATV experiments with balloons. Bill showed a videotape of his latest high-altitude balloon experiments in which one of his balloons reached an altitude of 133,000 feet! Attendees were awestruck at the sight of seeing the curvature of the earth at that height. Most interesting was the trip back to earth after the balloon burst with impact impending.

After an "attitude readjustment," the Symposium attendees returned to the Meredith Corporation facilities for the banquet and awards ceremonies. Over 50 awards were presented to AMSAT volunteers in recognition of their service to the AMSAT organization, the MicroSat program and the furtherance of OSCAR satellite program.

from AMSAT News Service

AMTOR-PACKET RADIO LINKED STATIONS

The following is a list of AMTOR packet radio linked (APLink) Amateur Radio stations as of October 29, as compiled by Craig McCartney, WA8DRZ. Mark carrier frequency or frequencies are listed.

Call Sign SELCAL SYSOP Location

9K2DZ NKDZ Abdul Safit, Kuwait
14072.0

AH6D AAHD Paul Aiea, Hawaii
14071.5 14073.5 14075.0 14077.5 (1630-0730Z)

DU9BC DUBC Fred Davao City, Philippines
14072.0 (24 hours), 7023 (mornings)

FE1JPY FJPY Henry Angers, France
14070.8 (even weeks 1300-2100Z, odd weeks 2000-0100Z)

G4SCA GSCA John Plymouth, England
7035 7036 14070 14070.5 14071.5 14072.5 14081 (1800-2200Z)

HL9TG HLTG Gary Camp Humphreys, Korea
14073.5

K2PEQ KPEQ Bill Fort Lauderdale, Florida
14079

K7BUC KBUC Del Phoenix, Arizona
7047.5 7071 10140 14071.5 14073.5 14074 14075

KB1PJ/8 KBPJ David Shaker Heights, Ohio
14070.5

KK4CQ KKCQ Harvey Pensacola, Florida
14071.5

KX6HE KXHE Tim Kwajalein, Marshall Islands
14069.5 140070.5 14071.5 14073.5
14074.5 14075.5 14077 14079 14081 (0800-0130Z)

NØIA/7 NNIA Bud Las Vegas, Nevada
7047.5 7072.5 10140.5 14068.4 14071.5 14072.5 21071.5 28075
(1300-2100Z)
3625 3627 7047.5 7071 7072.5 10140 10140.5 14068.5 14072.5
(2100-1300Z)

ND6D/MM2 NNND Jerry aboard M/V Sea-Land Anchorage
14069 (when vessel at sea)

PJ2MI PJMI Jose Curacao, Netherlands Antilles
14077.8 (1000-1200 and 2200-0100Z)

TG9VT TGVT John Guatemala City, Guatemala
14074 (0500-1200Z)

VE8DX VIDX Bob Pond Inlet, NWT, Canada
7073.5 7077 14071.5 14072.5 14073.5 14077
21071.5 21075 21079.8 28071.5 28075 28080

VK2AGE VAGE Gordon Goonellabah, NSW, Australia
7045 14075 14077 21076
(0200-0700Z beamed NA, 0700-1030 Asia, 1030-1200 NA,
1200-0000 EU)

VK2EHQ VEHQ Peter Kulnira, NSW, Australia
14070.5

VK6YM VKYM Herve Beckenham, Australia
14081 (1400-2300Z beamed Europe,
2300-1000Z beamed Pacific)

W2TKU WTKU Al Sarasota, Florida
14071.5

WA1URA/9 WURA Frank Grabill, Indiana
7075.5 10142.5 14070.5 14071.5 14073.5 14075.5 21076

WA8DRZ/6 WDRZ Craig Redwood City, California
10140.5 10141.5 14068.5 14069.5 14070.5
14071.5 14073.5 14074.5 14075.5

WA8GUG WGUG Ross Chillicothe, Ohio
14078.5

WB7QWG/9 WQWG Bob Indianapolis, Indiana
7072.5 7075.5 14071.5 14073.5 21071.5 28075.5

WB8APD WAPD Dave Willoughby, Ohio
14071.5

ZF1GC ZFGC Frank Bodden Town, Grand Cayman Island
14070 14070.5 14071.5

ZL1ACO ZACO Neill Pukekohe, New Zealand
14072.5

Please send any comments or changes to WA8DRZ.

NEW AMSAT LANDLINE BBS

The new AMSAT landline BBS is now part of the Dallas Remote Imaging Group's BBS at 214-394-7438.

from AMSAT News Service

GATEWAY CONTRIBUTIONS

Submissions for publication in *Gateway* are welcome. You may submit material via the US mail to:

Gateway
Stan Horzepa, WA1LOU
75 Kreger Drive
Wolcott, CT 06716-2702

or electronically, via CompuServe to user ID *70645,247* or via Internet to *70645.247@compuserve.com*. Via telephone, your editor can be reached on evenings and weekends at 203-879-1348 and he can switch a modem on line to receive text at 300, 1200 or 2400 bit/s. (Personal messages may be sent to your *Gateway* editor via packet radio to *WA1LOU @ N1DCS* or IP address *44.88.0.14*.)

The deadline for each issue of *Gateway* is the Saturday preceding the issue date (which is typically a Friday).

REPRODUCTION OF *GATEWAY* MATERIAL

Material may be excerpted from *Gateway* without prior permission, provided that the original contributor is credited and *Gateway* is identified as the source.

Gateway: The ARRL Packet Radio Newsletter is published by the:

American Radio Relay League
225 Main Street, Newington, CT 06111

Stan Horzepa, WA1LOU
Editor

Larry E. Price, W4RA
President

David Sumner, K1ZZ
Executive Vice President

Sal Prado
Gateway Circulation

Subscriptions are available to ARRL members and nonmembers, at the following rates:

For 25 issues of *Gateway*:
In the US
ARRL Member $6.00
Nonmember $9.00
In the US, Canada and Mexico by First Class mail
ARRL Member $11.00
Nonmember $14.00
Elsewhere by Airmail
ARRL Member $14.00
Nonmember $17.00

Prices are subject to change without notice. Remittance must be in US funds, and checks must be drawn on a bank in the US.

Gateway: The ARRL
Packet Radio Newsletter
American Radio Relay League
225 Main Street
Newington, CT 06111

Nonprofit Organization
U.S. POSTAGE
PAID
Hartford, CT
PERMIT NO. 2929

007045536 N8GNJ PO 002
Steven K Stroh
14919 NE 163rd St
Woodinville WA 980728957